What is claimed is:

1. A method for encapsulating agents into particles through stable aqueous-aqueous emulsification comprising:

a. selecting polysaccharides as the dispersed phase for aqueous-aqueous emulsification, selecting aqueous polymers as the continuous phase, and selecting an stabilizing agent and its concentration for aqueous-aqueous emulsification, to provide a stable polymer aqueous-aqueous emulsion which is capable of encapsulating an agent into the polysaccharide dispersed phase;

b. providing at least one agent;

c. controlling the size and shape of the agent-loaded polysaccharide particles into appropriate size range;

d. drying the emulsion; and

e. removing the continuous phase after drying by washing the sample with solvent(s) which do not penetrate into the dried dispersed phase nor affect the loaded delicate agent(s).

2. A composition used in the method of claim 1, including an aqueous dispersed phase, an aqueous continuous phase and an aqueous surface modifier, capable to form a stable aqueous-aqueous emulsion.

3. The composition of claim 2, comprising sufficient amount of polysaccharides or derivatives thereof capable of forming the dispersed phase of the aqueous-aqueous emulsion and protecting agents encapsulated.

4. The composition of Claim 3, wherein the polysaccharide is selected from the group consisting of dextran, starch, cellulose and its derivatives, and agarose and all type of poly- or oligo- sugars, which possess similar structure.

5. The composition of claim 4, wherein the average molecular weight of the polysaccharides is ranged from 2,000 to 2,000,000.

6. The composition of Claim 3, wherein the agent is a biologically active agent.

7. The composition of Claim 6, wherein the agent is selected from the group consisting of proteins, peptides, DNA/RNA, liposomes, and live viruses.

8. The composition of Claim 7, wherein the protein or peptide is selected from the group consisting of erythropoietin (EPO), granulocyte colony stimulating factor (G-CSF), granulocyte macrophage colony stimulating factor (GM-CSF), interferon and ß, growth hormone, calcitonin, tissue-type plasminogen activator (TPA), factor VIII, factor IX, hirudin, dornabe , and other therapeutic proteins or peptides.

9. The composition of Claim 3, further comprising a small molecular sugar as complimentary agents for better protection of agents encapsulated in the polysaccharide dispersed phase during successive steps.

10. The composition of claim 9, wherein the small molecular sugar is selected from trehalose, manitol, sucrose, lactose or glycerin.

11. The composition of claim 2, comprising an aqueous polymer, which is immiscible with the polysaccharides, to form the continuous phase of the aqueous-aqueous emulsion.

12. The composition of claim 11, wherein the aqueous polymer in the continuous phase is polyethylene glycol (PEG), polyethylene oxide (PEO), polyvinyl pyrrolidone (PVP), or polyvinyl alcohol (PVA).

13. The composition of Claim 12, wherein the average molecular weight of the polymer is ranged from 2,000 to 2,000,000.

14. The composition of claim 2, comprising an aqueous polymer as the surface modifier of the dispersed phase.

15. The composition of claim 14, wherein the polymeric surface modifier is selected from sodium alginate, hyaluronate, carboxymethyl cellulose, carboxymethyl dextran, dextran sulfate, and other dextran or starch devertives, or other polymers that possess

negatively charged backbone and positively charged counter ions.

16. The method of Claim 1, wherein the emulsion is dried through lyophilization, spray drying or a conventional drying process to solidify the agent-encapsulated polysaccharide dispersed phase.

17. Dried polysaccharide dispersed phase prepared by the method of claim 16, possessing an average diameter of 1-5 μm for inhalation and for double microencapsulation, and of 1-50 μm for other applications.

18. A method of encapsulating dried polysaccharide dispersed phase into biodegradable polymer microspheres for controlled release of bioactive agent(s) comprising:

a) utilizing a solid-in-oil-in-water (S-O-W) emulsification process or a solid-in-oil-in-oil process with the dried polysaccharide dispersed phase as the solid phase;

b) selecting a biodegradable polymer, dissolving the polymer in an organic solvent and suspending the dried polysaccharide dispersed phase in the polymer solution;

c) selecting polymeric surfactant(s) for dispersing the solution of the biodegradable polymers in a water solution of a small molecular salt;

d) the concentration of the slat solution ranges from 0.5 % to 50%;

e) removing the organic solvent by extraction or evaporation.

19. The method of Claim 18, wherein the biodegradable polymer is PLGA, poly-pseudo CBZ-serine or other polymers.

20. Particulates of degradable polymers prepared using the method of claim 18, wherein dried polysaccharide dispersed phase is distributed in the matrix.

21. Particulates of Claim 20, wherein the ratio of dried polysaccharide dispersed phase to the degradable polymer is within the range of 1:2 to 1:40.

22. A composition of any one of claims 2-15 for or acceptable for pharmaceutical applications.